



Attorney's Docket No.: 10417-100001 / F51-136641M/TOM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Haruo Hyodo et al.

Art Unit : 2818

Serial No. : 09/963,839

Examiner : Quoc Dinh Hoang

Filed : September 26, 2001

Title : SEMICONDUCTOR DEVICE AND MANUFACTURING METHOD THEROF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as indicated on the following pages.

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

August 5, 2003

Date of Deposit

Signature

Rose Papetti

Typed or Printed Name of Person Signing Certificate

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device comprising:
a supporting substrate made of insulating material;
a conductive pattern provided on a surface of the supporting substrate;
an external connecting terminal provided on a back surface of the supporting substrate
and electrically connected to the conductive patterns;
a ~~circuit~~ fuse element provided on the conductive pattern; and
a transparent glass plate that covers the ~~circuit~~ fuse element and that forms a hollow
airtight portion between the supporting substrate and the transparent glass plate.
2. (Canceled)
3. (Original) A semiconductor device according to claim 1, wherein the supporting
substrate includes a flat supporting portion and a column portion, and the conductive patterns are
provided on the flat supporting portion.
4. (Previously Presented) A semiconductor device according to claim 1, wherein the
transparent glass plate is adhered onto the column portion.
5. (Original) A semiconductor device according to claim 1, wherein a via hole is provided
in the supporting substrate, and the circuit element and the external connecting terminals are
electrically connected through the via hole.

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6. (Canceled)

7. (Currently Amended) A semiconductor device according to claim 6 1, wherein the fuse element is formed of a ~~bonding~~ metal wire.

Claims 8 – 11 (Withdrawn)

REMARKS

Claims 1-7 are pending. Claims 8-11 have been withdrawn. Claims 1 and 7 have been amended. Amendment to claim 1 is based on claim 6, and thus claim 6 has been canceled. Claim 7 has been amended to provide antecedent basis to claim 1, and the term “bonding” has been replaced “metal.” Support for such an amendment can be found in the specification. No new matter has been added.

Claim Rejections – 35 USC 102

In the pervious final office action, claims 1-7 have been rejected under 35 U.S.C. §102(e) as being anticipated by Mizuno et al.

Amended claim 1 recites:

1. (Currently Amended) A semiconductor device comprising:
a supporting substrate made of insulating material;
a conductive pattern provided on a surface of the supporting substrate;
an external connecting terminal provided on a back surface of the supporting substrate and electrically connected to the conductive patterns;
a **fuse element** provided on the conductive pattern; and
a transparent glass plate that covers the **fuse element** and that forms a hollow airtight portion between the supporting substrate and the transparent glass plate.
(Emphasis added)

Applicants respectfully submit that the above bolded feature is not taught or suggested by Mizuno for the following reasons.

The office action suggests that wire 14 in the Mizuno reference is a “fuse element” as recited in original claims 6 and 7. Claim 1 has been amended to clarify that “fuse element” based on claims 6 and 7. In the current application, FIG. 2A is a sectional view and FIG. 2B is a plan view showing an embodiment of an overcurrent-protecting device using a fuse element. However, wire 14 is not a “fuse element,” rather it is a wire that is connected between a

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semiconductor acceleration sensor chip and a signal processing IC chip 4. That is, wire 14 does not have the same structure or perform the same function including overcurrent protection as a "fuse element" as recited in amended claim 1. In addition, using a translucent glass plate as recited in claim 1, may allow the visual inspection of the fuse element when it breaks down without having to remove the glass plate. Thus, claim 1 is not taught or suggested by the Mizuno reference for least this reason.

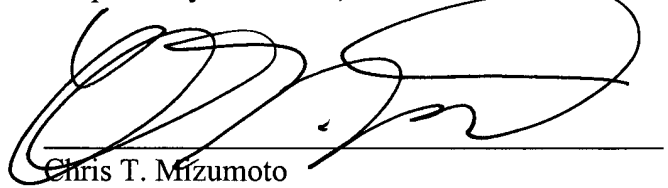
Since claims 3-5 and 7 depend directly or indirectly from claim 1, they should be allowable for at least the same reasons.

Consequently, applicants respectfully request allowance of the application.

Applicant asks that all claims be examined in view of the amendment to the claims.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,



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Date: August 5, 2003

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